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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,483	07/09/2003	Valentino Montegrando	0424-02	9699
21704	7590	12/23/2004	EXAMINER	
LAW OFFICES OF ERIC KARICH 2807 ST. MARK DR. MANSFIELD, TX 76063			YANG, NELSON C	
			ART UNIT	PAPER NUMBER
			1641	

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/616,483	<b>Applicant(s)</b> MONTEGRANDE ET AL.	
	<b>Examiner</b> Nelson Yang	<b>Art Unit</b> 1641	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 October 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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## DETAILED ACTION

### *Response to Amendment*

1. Applicant's amendment of claim 6 is acknowledged and has been entered.
2. Applicant's cancellation of claims 1-5, 11 is acknowledged and has been entered.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chow et al [US 6,149,787] in view of Hu et al [US 6,623,860].

With respect to claim 6 Chow et al teach multi-layer microfluidic devices comprising channels and wells (column 3, lines 1-26), including a common sample port (inlet well) and waste reservoir (outlet well) (column 7, lines 50-67) using microfabrication techniques (column 6, lines 14-40). Chow et al further teach the use of detection systems such as electrochemical sensors (electrodes) in connection with a computer (column 12, lines 29-60). Chow et al fail to teach that the input flow channels are distinct from the plurality of outlet flow channels, such that each of the plurality of input flow channels is in fluid communication only through one of the plurality of antigen detection wells.

Hu et al, however, teach multilevel flow structures where column reagent reservoirs (inlet wells) are connected to primary, secondary, and tertiary manifold channels, which connect to

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receptacles (antigen detection wells) (fig. 7D, column 15, lines 15-45). On the opposite side are located the waste reservoirs, such that components moved from intersection toward waste reservoir (column 12, lines 55-67) Hu et al further teach that by employing common reservoirs for samples and/or reagents, economies in the use of the sample and reagents are achieved, simplifying sample handling, since a single transfer to a single reservoir will suffice for performing a plurality of test on a sample (column 17, lines 54-67).

Therefore, it would have been obvious in the device of Chow et al for the input flow channels are distinct from the plurality of outlet flow channels, such that each of the plurality of input flow channels is in fluid communication only through one of the plurality of antigen detection wells, as suggested by Hu et al, in order to provide economies in the use of the sample and reagents are achieved, simplifying sample handling.

5. With respect to claim 7, Chow et al teach reagents in fluid communication with the analysis channel (column 7, lines 55-65).

6. With respect to claim 8, Chow et al further teach the use of detection systems such as electrochemical sensors (electrodes) in connection with a computer (column 12, lines 29-60).

7. With respect to claim 9, Chow et al also teach antibodies in the microfluidic device which can be separated from the sample for desired analysis (column 12, lines 60-65).

8. With respect to claim 10, Chow et al further teach the use of detection systems such as electrochemical sensors (electrodes) in connection with a computer (column 12, lines 29-60).

#### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

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*Conclusion*

10. No claims are allowed.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson Yang whose telephone number is (571) 272-0826. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long V Le can be reached on (571)272-0823. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nelson Yang  
Patent Examiner  
Art Unit 1641



LONG V. LE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1600

12/20/04